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1731

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/381,631

Filing Date: March 01, 2000

Appellant(s): JEANVOINE ET AL.

Norman F. Oblon, Harris S. Pitlick
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 18, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The statement of the grounds of rejection in applicant's appeal brief is *incorrect*. The Merriam-Webster and Titus et al references were not relied upon to support the rejections. Reliance upon said references is only necessary if the meaning of the terms "glass," "slag" or

"municipal waste" is in some way unclear. Reference is made hereby to the "Claim Interpretation Notes" of the Final Rejection.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,615,626	FLOYD ET AL	4-1997
4,983,549	GREVE	6-1991

(9) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claims 38, 39, 42-45, 50, 56 and 98 are rejected under 35 U.S.C. 102(b) as being anticipated by Floyd et al (US 5615626). Features of applicant's claims can be found in the abstract, figures, col. 2, line 26 to col. 4, line 10; col. 5, line 34 to col. 6, line 60; col. 7, lines 39-48; col. 8, lines 6-38; col. 10, lines 20-35 and the example. Specifically, oxides, incinerator ash, slag, swarf and mineral feed streams as well as coal were disclosed at col. 3, lines 32-61; col. 4, lines 3-6; col. 6, lines 3-10, 18-24, 55-56; col. 12, lines 16-23 (note "smelting") and 40-42; and col. 13, lines 1-16. Floyd et al, col. 6, lines 56-60 and col. 13, lines 17-22 disclosed that slag was granulated to provide building materials. Submerged combustion with an oxygen or free-oxygen

Art Unit: 1731

containing gas lance mounted adjustably in the roof of the reactor is shown in col. 3, lines 1-3; col. 5, lines 1-7 and 34-68. The recitation of "municipal waste" in Floyd et al is considered to include various "glazings".

Floyd et al produced materials used in landfills or as building materials that were known to contain glassy phases (see Floyd et al, col. 6, lines 50-60). Furthermore, the example of Floyd et al demonstrates that a feed stream containing mostly oxides in the form of steel swarf and incinerator ash was heated to 1230°C. Note also that the total oxide proportion of the waste feed (col. 13, lines 5-16) was 74%. The oxides in the waste feed stream were well known in the art to be glass formers (see also, col. 4, lines 3-6). These facts, as well as the numerous references to slag and flux, clearly indicate a glass melting process. It should also be noted that the applicant does not claim or disclose a proportion of glass in the feed stream or product of the invention.

With regard to claim 43, the figures of Floyd et al illustrated a roof-mounted burner (lance). With regard to claim 44, Floyd et al disclosed convective stirring in col. 3, lines 1-3; col. 5, lines 34-38 and 51-55; and col. 10, lines 20-35. With regard to claim 45, col. 6, lines 44-48 and col. 9, lines 12-19 of Floyd et al and also col. 3, lines 22-32 of Floyd et al disclosed the roof-mounted lance was to be raised and lowered and the level of molten slag was disclosed to be controlled in batch, continuous and semi-continuous melting campaigns. With regard to claim 50, the disclosed melting range in Floyd et al was 1100 to 1400°C (col. 3, line 36). With regard to claim 56, Floyd et al: col. 3, lines 30-33; col. 10, lines 27-29 and figure 1 disclose that vitrifiable materials are introduced below the surface of the molten bath. With regard to claim 98, Floyd et al, col. 6, lines 56-60 and col. 13, lines 17-22 disclosed that slag was granulated to provide building materials.

Claims 40, 46, 78, 101-104, 106, 115 and 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd et al.

With regard to claims 40 and 78, Floyd et al does not specify composite materials containing glass and metal. Col. 2, lines 31-64 of Floyd et al lists many waste products that can be charged into the submerged combustion melter, including motor vehicle tires and vehicle battery casings. It is the position of the examiner that tires and battery casings are known to contain metallic belts and metallic electrodes respectively. It would have been obvious to include glass-metal composite materials because at glass or slag melting temperatures, it would not have mattered whether the metalics were attached to glass parts or organic parts. The metal would have oxidized rapidly no matter to what it was attached.

With regard to claim 46, Floyd et al did not disclose a pre-heating step, per se. The examiner notes that a significant proportion of the feed stream of Floyd et al was incinerator ash or steel swarf (see example) and in some cases, recycled slag (see col. 6, lines 53-56). An immediately preceding incineration or steel refining process would have provided pre heated vitrifiable materials. It would have been obvious in the process of Floyd et al to provide the pre heated materials at 900°C or lower since the incineration of organic matter would likely have taken place well below 900°C and the incinerator ash would have to be rushed from the incineration to the melting stage to prevent it from cooling excessively.

With regard to claims 101, 103, 104, 106, 115 and 116, Floyd et al did not teach the manufacture of flat glass, bottles, flasks, glass wool, electronic parts, foamy glass or glass fiber. It is the position of the examiner that once the vitrifiable materials of Floyd et al are in a molten form, it would have been obvious to perform any well-known forming process on the molten

Art Unit: 1731

materials. Further, no specific method steps for forming such products are claimed, only a general “manufacturing” step is present. The final form of the molten glass does not result in a manipulative difference as compared to the teachings of Floyd et al to manufacture glass products.

With regard to claim 106, “Electronic part” reads on any glass shape that could be used as an insulator. With regard to claim 116, Floyd et al did not disclose a specific density. It would have been obvious to a person skilled in the art at the time the invention was made to melt a foamy glass having a density of 0.5 to 2 g/cm³ for the reasons outlined in the previous paragraph.

With regard to claim 102, Floyd et al did not teach a flat product with a solar-protection or fire-resistance function. It is the position of the examiner that future use or properties of the product do not change the manipulative steps of the process of the invention. Furthermore, it would have been obvious to produce a product with a residual blue color in light of the description of the waste feed disclosed by Floyd et al. Note that iron and manganese in small amounts were known in the art to impart a blue color to glass (see Floyd et al, col. 2, lines 32-40).

Claims 77 and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd et al in view of Greve (US 4983549).

Floyd et al did not teach the inclusion of laminated glass or mineral fibers with organic binders in the waste charged into the submerged combustion melter. Greve taught methods of recycling plastic composite materials wherein glass fiber reinforced composites were pyrolyzed and the inorganic pyrolizate was melted into glass products (see col. 3, lines 33-51, col. 4, lines 4-59, col. 5, lines 3-16, col. 6, line 1 to col. 8, line 49 and col. 10, line 41 to col. 11, line 59). It

would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the composites of Greve in the waste charged into the melter of Floyd et al because Floyd et al taught that the organics would combust and leave behind meltable inorganics. Alternatively, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the inorganic pyrolyzate of Greve in the ash inclusion of Floyd et al because Greve taught that the pyrolyzate would have melted readily into E glass.

(10) Response to Argument

In response to the argument that Floyd et al's apparatus is an incinerator, not a melting chamber, the examiner disagrees. Assuming that slag is actually molten glass, the reactor of Floyd et al would be a melter. It should also be noted that applicant's independent claims don't require a "melting chamber" per se. The claims also state that the vitrifiable materials contain "liquid or solid combustible elements". It is the position of the examiner that the applicant's claims read on the reactor of Floyd et al.

In response to the argument that Floyd et al does not manufacture glass, the examiner disagrees. Assuming that slag is actually molten glass, the solidified products removed from the reactor of Floyd et al would be glass. In support of this argument, the applicant states "the materials to be treated in the present invention are limited to vitrifiable materials selected from the group consisting of batch materials, cullet, vitrifiable waste, and mixtures thereof." It is the position of the examiner that "vitrifiable waste" would include the municipal waste of Floyd et al.

The example of Floyd et al demonstrates that a feed stream containing mostly oxides in the form of steel swarf and incinerator ash was heated to 1230°C. Note also that the total oxide proportion of the waste feed (col. 13, lines 5-16) was 74%. The oxides in the waste feed stream were well known in the art to be glass formers (see also, col. 4, lines 3-6). These facts, as well as the numerous references to slag and flux, clearly indicate a glass melting process. It should also be noted that the applicant does not claim or disclose a proportion of glass in the feed stream or product of the invention.

In response to the arguments that slag is not glass, the examiner notes that in the claims as presented, the term "glass" reads on the prior art disclosure of "slag". The applicant has supplied a further dictionary definition of "slag" to conclude that "there is more than one type of slag." In fact, one type of slag "slag, basic" was defined as "...very impure glass composed of basic silicates" on the same page. There should be no need to resort to the definitions of either dictionary or of the disclosure of Titus et al. A person of skill in the art would have known that slags of various types were used in glass manufacturing processes. The disclosure of Titus et al was used merely to point out this fact. The applicant does not claim or provide support for claiming glass of any particular clarity or purity. Therefore, the claims read on the disclosure of Floyd et al.

In response to the argument that Floyd et al is nonanalogous art, the examiner disagrees. The criteria set forth in MPEP 2141.01 (a) has been used and it is the position of the examiner that for the reasons set forth above, Floyd et al is more than reasonably pertinent to the problem with which the inventor is involved because municipal waste contains glass and slag is molten glass.

In response to the argument that one skilled in the art would not look to Floyd et al to solve a problem regarding the recovery of vitrifiable materials, the examiner disagrees. The applicant and the examiner have a fundamental disagreement as to the meaning of the terms “slag”, “glass” and “municipal waste”. Assuming that slag is actually molten glass and municipal waste contains significant quantities of glass to be melted, Floyd et al would be applicable to recycling of glass.

In response to the argument that claim 46 would not have been obvious over Floyd et al, the examiner disagrees. Since the applicant does not claim (or provide support for claiming) a minimum temperature for the preheating step, the claim reads on a minimal temperature increase above ambient. For reasons outlined in the rejection, it would have been obvious to expect some of the feed materials of Floyd et al to be hotter than ambient, but less than 900°C.

In response to the argument that Floyd et al did not disclose foamy glass, the examiner disagrees. In determining whether a process claim is unobvious over an identical process in the prior art due to a difference in the end product, no per se rules exist, so the determination must be made on a case-by-case basis (MPEP 2116.01). As outlined in the rejections above, the different end product shapes are obvious variants of the glass products of Floyd et al. Since slag is molten glass, solidified or granulated slag is solidified glass. The argument that Floyd et al does not teach foamy glass is not well taken in light of applicant’s earlier argument in page 6, lines 11-14 of the appeal brief filed July 9, 2003 stating that Floyd et al did not teach glass manufacture because figure 1 showed a “very porous” treated mass. The claimed density of 0.5 to 2 g/cm³ would have been obvious because it was not shown to be a critical range.

Art Unit: 1731

In response to the argument that there is no suggestion that the process of Floyd et al could be used with that of Greve, the examiner disagrees. The examiner demonstrated the motivation to combine Greve with Floyd et al and vice versa, but the applicant did not address these motivational statements or explain why they are supposedly incorrect. This is tantamount to acquiescence with the examiner's statements of motivation.

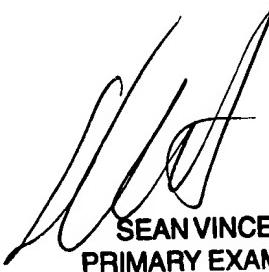
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Sean E Vincent



SEAN VINCENT
PRIMARY EXAMINER

Conferees:



Patrick Ryan



Steven Griffin